

Evil Origins: A Darwinian Genealogy of the Popcultural Villain

Jens Kjeldgaard-Christiansen
Aarhus University

This article argues that the sciences of mind can inform analyses of narrative characters, including their motives, appearances, and other traits. In particular, it explores the popcultural villain through the lenses of evolutionary and social psychology. Evolutionary psychology supplies a basic blueprint for impactful villains: they are selfish, exploitative, and sadistic. They contravene the prosocial ethos of society. Social psychology embeds this blueprint in the interactions of characters by offering mechanisms through which cruel behavior may be realized. The main mechanisms behind moral disengagement are empathic deficits, pseudospeciation, and Baumeister's notion of a 'myth of pure evil': an attributive stance whereby humans consider injurious actions the products of evil essences in others. Finally, disgust may contribute to a character's perceived evil nature through dehumanization, likely compounded by a cognitive conflation of disgust toward potential contaminants and moral disgust toward social transgressions. Following the theoretical discussion, the article offers 5 predictions as to the universal makeup of popcultural villains. All predictions are complemented with illustrative vignettes on popcultural villains that embody the principles proposed.

Keywords: agonistic structure, Darwinian criticism, evil, evolutionary psychology, narrative

While nothing is easier than to denounce the evildoer; nothing is more difficult than to understand him.

—Fyodor Dostoyevsky (as quoted in Simon, 1995, p. xv)

The concept of evil is ontologically problematic. It is so problematic that philosophers and theologians have offered different and often contradictory ideas about evil for thousands of years. Scholars now suggest that this is because their predecessors worked on an ill-posed problem (Baumeister, 2001; Greene, 2014). Trying to square the existence of an absolute, reified evil with the post-Darwinian conception of life and the human condition is impossible; Darwinism has no use for such ethico-religious assumptions. In this article, by drawing on modern evolutionary and social psychology, I sketch a perspective on evil that breaks with metaphys-

ics. Evil from this perspective emerges as a folk-psychological construct whose unreal metaphysics has real implications. I argue that evolved cognitive dispositions inform and constrain the archetypical villain of popular literature, film, and video games. I proceed to draw up a set of empirical predictions toward fictional evil villains. Finally, I suggest that stories of good versus evil, in which the evil villain is often among the most salient characters, may have an adaptive function in carving out an imaginative space through which societies can affirm their prosocial values. The goal of the present thesis, then, is to offer a poetics of evil that is empirically tractable as well as vertically integrated with the sciences of human mind and kind.

A Very Brief Intellectual History of Evil

Evil has historically been conceptualized as something real, if somehow metaphysical (Vardy & Arliss, 2003). It was thought to be some embodied or cosmic force with the power to influence real-world events. This notion runs through religious and mythological traditions all the way back to some of humanity's oldest

This article was published Online First November 2, 2015.

Correspondence concerning this article should be addressed to Jens Kjeldgaard-Christiansen, School of Communication and Culture, Aarhus University, Jens Chr. Skous Vej 4, 8000 Aarhus C, Denmark. E-mail: Jenslyn87@live.dk

extant writings, such as the *Epic of Gilgamesh* from ancient Mesopotamia and the *Enuma Elish* from ancient Babylon. The realist conception of evil found in these works was later adopted and modified by various religious movements thought to originate in the Fertile Crescent circa 2000 years ago. One such movement was Manichaeism. The Manichaeans thought that the world was the battleground of perpetual strife between spiritual good and material evil, a dualism that is still very much present in today's collective consciousness. In the West, Christian thinkers like Irenaeus and Augustine were influenced by the Manichaeans, but they struggled to reconcile the omnipotent, omnibenevolent character of the Christian god with the suffering and evil in the world. This doctrinal defense, known as Theodicy, was the spark of religious and philosophical traditions grappling with the problem of evil. Such traditions now frame the modern, Western discourse about the supposed metaphysics of evil.

Alongside religious thinking about evil rose a more mundane tradition. The instigator of this tradition, Aristotle, believed in the existence of evil, but he found its locus in human nature. This first inklings toward a naturalistic theory of evil was later picked up, albeit often in very different forms, by philosophers like Nietzsche, writers like Dostoyevsky, social thinkers like Spencer, and, crucially, scientific naturalists like Darwin (1871/2013). It is this thread that I pick up in what follows.

Darwin Among the Humanities

Darwin placed the human subject squarely in the natural world. As philosophers and historians like to point out, the famous naturalist collapsed the divinely mandated categories of man and animal in one fell swoop (Bowler, 2009; Dennett, 1996). All organisms are the products of blind probabilistic processes played out over geological time. This basic idea explains Earth's entire biosphere, including, of course, the phyletic expanse of *Homo sapiens* (Dawkins, 2006a, 2006b). Darwin (1859/1998, pp. 367–368) was not afraid to follow this line of reasoning to its conclusion: Even the human mental faculties would have been shaped by the powerful mechanistic principle of natural selection.

Despite protests from various strands of academia, Darwin's legacy has consequences for fields traditionally thought to lie outside the realm of science, such as philosophy, literary studies, and cultural criticism (Buss, 2012, pp. 389–429; Pinker, 1999; Wilson, 1998). But although the Darwinian New Synthesis has already made substantial inroads into social sciences such as psychology, it has yet to fully broach the humanities. One can list a variety of historical and sociocultural factors for why this may be; none invalidates the project. If, as literary Darwinist Joseph Carroll (2013a) asserts, “[narrative] meaning is lodged in individual human brains interacting with other individual human brains,” and if the human brain is indeed an evolved organ with the mind being its product, then “it follows that motives, feelings, sensations, and thoughts are constrained and directed by adaptive dispositions deriving from the reproductive logic of the human species” (p. 2). There are only two ways of short-circuiting this logic before the conclusion follows that humanist scholars must take the Darwinian revolution and its intellectual tendrils seriously: (a) One may appeal to cognitive transcendence, the idea that the human psychology has somehow escaped its “lowly origin”; (b) Conceding that Darwinian principles must filter through to human mental life, one may appeal to cultural transcendence, holding that Darwin can have nothing interesting to say about the cultural achievements of modern civilization. I will briefly address both points before I proceed to what a Darwinian account of evil would look like.

The objection of cognitive transcendence holds some promise a priori. Because humans evolved to fill a cognitive niche (Pinker, 1999; Tooby & Devore, 1987), natural selection might have entirely substituted flexible cognition for fixed action patterns. Such a doctrine of radical cognitive plasticity has received support from a wide range of intellectuals, notably paleontologist and science communicator Stephen Jay Gould, who famously asserted that we have a “brain capable of a full range of human behaviors and predisposed to none” (1976, quoted in Pinker, 2003, p. 122). There are reasons to doubt that this is true, however. For one, humans are cross-culturally interested in certain things and not others. These things bear a systematic relation to evolution's most emblematic

themes, survival and procreation, refuting the ‘blank slate’ premise of the argument (Brown, 1991; Buss, 2012; Pinker, 1999). The mundane fact that human females tend to attract human males, and vice versa, in all cultures is testament that we are still swayed by the forces that put us here in the first place. But this much is trivially true. Perhaps more compelling is the fact that evolved, emotional drives and heuristics shape our fears and phobias (Öhman & Mineka, 2001), the way we think about in-group and out-group members (Greene, 2014), and the way we engage abstract moral problems (Haidt, 2013). I will discuss all of these points in greater detail later in this article. The point is that the massive human prefrontal cortex is not so much transcending the ancient reptilian and mammalian structures of the brain as it is counterbalancing or modulating them. Humans can engage in deliberate and relatively bias-free reasoning, but this reasoning, as Hume famously asserted, ultimately serves the passions. And human passions are not all that fundamentally different from those of, say, a ‘lowly’ macaque monkey (De Waal, 2010).

What, then, of our cultural achievements? Numerous lines of inquiry suggest that they too take a strong evolutionary inflection (Dutton, 2009; Carroll, 2010; Clasen, 2010a; Gottschall, 2013; Grodal, 2009). So although it is doubtless true that narrative fiction, movies, and video games are products of particular cultures, it does not follow that they are *only* cultural, whatever that would mean. Happily, evolutionary critics in the humanities are increasingly capitalizing on insights from sciences such as evolutionary psychology, human behavioral ecology, and biological anthropology, showing how for example the themes of literature and film tie in with our evolved dispositions (Boyd, Carroll, & Gottschall, 2010; Carroll, 1995, 2010, 2013b). Likewise, evolutionary social scientists are bringing their perspective to bear on humanistic subject matter (King, 2015; Scalise Sugiyama, 2001; Tooby & Cosmides, 2001). Championing an ‘interactionist’ perspective, these scholars, following E. O. Wilson (1998), seek consilience between the branches of learning. They argue that genres ranging from modern horror fiction to ancient Greek tragedy are open to evolutionary insights because they spring from the biological substrate of the evolved human brain (Clasen, 2012; Gottschall,

2008). I contend that the same line of reasoning can inform us about evil as one of the principal ingredients in our imaginative, narrative lives.

The Evolutionary Psychology of Evil

To say something meaningful about the evolutionary psychology of evil, it is also necessary to say something about the evolutionary psychology of good, or altruism (Duntley & Buss, 2004).¹ Recent research on applied human moral psychology has documented a bundle of evolved cognitive modules and attendant heuristics governing our intuitions (Bloom, 2013; Cushman & Greene, 2012; Cosmides & Tooby, 2006; Haidt, 2013; Warneken & Tomasello, 2013). In a nutshell, we tend to think agents and acts are moral or immoral based on gut feeling. Yet we are highly adept at rationalizing these whims post hoc, making them seem principled and consistent.

In his synthesis of recent moral psychology research, philosopher and neuroscientist Joshua Greene (2014) lays out our best current understanding of the evolved human righteousness: “Morality is a set of psychological adaptations that allow otherwise selfish individuals to reap the benefits of cooperation” (p. 185). This definition neatly captures the evolutionary logic of kin selection and reciprocal altruism, the central dimensions along which prosocial cooperation can unfold (Axelrod & Hamilton, 1981).² The problem these mechanisms evolved to negotiate is that competition, not cooperation, is the default mode of interaction between agents coexisting in ecologies of finite resources (Dawkins, 2006a, 2006b; Williams, 1966). Kin selection and reciprocal altruism enable individuals to reconfigure the incentive structure of Darwinian first-order competition by exploiting two game-theoretic facts. In the case of kin selection, related organisms’ likelihood of sharing altruis-

¹ To be sure, evolutionary theory has nothing to say about what is right or wrong at a philosophical level. I only claim that it can inform our conceptions of good and evil at the cultural and phenomenological levels.

² Some contemporary scholars similarly stress the role of the newly resuscitated concept of group selection, albeit in new forms (Wilson & Wilson, 2008). Others resist this view, however, maintaining that group selection is either a misleading notational variant (Pinker, 2012) or a feasible but empirically extremely implausible hypothesis (Price, 2012).

tic genes increases in proportion to the organisms' degree of relatedness (Krebs, 1987). This allows such altruistic genes to proliferate among kin, when otherwise they would only be to the self-sacrificing agent's detriment. In the case of reciprocal altruism, if organisms are faced with options for iterated rounds of positive-sum interaction, and provided this interaction has no preset terminus (Pinker, 2011, pp. 645–646), it pays to sign the social contract and cooperate according to a Tit for Tat algorithm.³ Indiscriminate altruism is a losing strategy that falls prey to exploiters. From the perspective of individual organisms, of course, the very best scenario is to derive fitness benefits from interactions without reciprocating. This tension can select for selfish exploitation even in a context of cooperating altruists. The fundamental payoff matrix of cooperation and defection undergirds the rich human moral tapestry, including feelings of gratitude, honor, guilt, and righteous indignation (Greene, 2014). It is also the first part of the evolutionary story about why we designate certain acts, individuals, and groups as evil, as I will show.

At its core, then, human intuitive morality is about within-group cooperation. Kin selection and reciprocal altruism enable selfish genes coding for unselfish behaviors to spread through the population. The flipside is that cheaters, or 'free-riders,' may take advantage of altruists cooperating by default. As psychologist Steven Pinker puts it, "a person's own level of virtue is a tradeoff between the esteem that comes from cultivating a reputation as a cooperater and the ill-gotten gains of stealthy cheating" (2011, p. 591). In a cognitive species such as *Homo sapiens*, this means that cooperating agents must gauge the prospective contributions of potential associates.

Evolutionary psychologists Leda Cosmide and John Tooby (Tooby & Cosmide, 2008, 2010) systematized this evolutionary problem in the concept of the Welfare Tradeoff Ratio (WTR). If organism A is willing to trade off a relatively high measure of its own welfare against a relatively low measure of organism B's welfare, then organism A exhibits a high WTR in that particular relation. As members of a social species, humans should preferentially court high-WTR conspecifics, which is why they are programmed to assess the prospective fitness returns of current and potential liaisons.

But the argument cuts both ways. Others are only motivated to engage us insofar as we willingly incur costs to promote the welfare of in-group members. Failing this, we effectively advertise a limited association value to them, thereby motivating them to avoid or even punish us. And humans have numerous indirect ways of figuring out on whom to bet. In fact, evolutionary thinkers argue that gossip evolved precisely to assess the association value of in-group members through communal coregistration of offending behaviors (Nowak & Sigmund, 1998). This mechanism of indirect reciprocity is supported by the fact that gossip is primarily about transgressions of social and moral mores (Dunbar, 2004).

Cheating, exploitation, and malice, from this perspective, are expressions of a socially unacceptable WTR configuration that negates the prosocial ethos of the group, threatening to unravel it in the process. Depending on a variety of factors, such as the association value of the offender, a restorative, avoidant, or retributive effort may upregulate offenders' WTR, or at least its extrinsic expression.⁴ This is supported by a sizable literature demonstrating that costly prosocial punishing occurs spontaneously in Public Goods games⁵ (Greene, 2014, pp. 58–59). Prosocial punishers pay a sum of their own money to reduce the payoff of free-riders. The upshot is that contributions to the common pot begin to ratchet upward. Moderate retributive sanctions thus seem to carry a recalibrational rationale at the group level (Boehm, 2014). But,

³ Tit for Tat is a game-theoretic strategy that has players cooperate at the outset and then copy the other party's move in subsequent rounds. This allows agents to escape exploitation because any such attempt by one player will be met with defection in the following round.

⁴ Tooby and Cosmides differentiate between someone's intrinsic WTR—a person's privately preferred tradeoff margin—and the same person's extrinsic, manifest WTR, which may be higher attributable to social pressure, fear of sanctions etc.

⁵ The Public Goods game is an experimental paradigm of behavioral economics. It describes a setup in which a number of people begin with a number of tokens that they can choose to either keep or contribute to a common pot over the course of several rounds of play. At the end of the game, whatever is in the pot is doubled and divided evenly among all players. This game instantiates a 'Tragedy of the Commons' scenario whereby selfish players should always defect, while the group as a whole benefits with each contribution to the shared pot (Rand, Dreber, Ellingsen, Fudenberg, & Nowak, 2009).

as Tooby and Cosmides point out, all of this is mediated by emotions, or, in the language of the neuroscientist Antonio Damasio (2006), ‘somatic markers’ that lubricate the neural pathways of specific behaviors. And indeed prosocial punishers in Public Goods games report that they are driven by the emotional satisfaction of setting things straight (Haidt, 2013, p. 209). The point is that none of us is consciously computing or recalibrating the WTRs of our associates; we just feel good or bad based on the outcome of a social exchange. These emotions in effect constitute a data format that promotes context-specific action, often as an answer to the quintessential adaptive questions for any member of a social species: approach or avoid? Deter or reinforce?

Tooby and Cosmides’ conceptual framework makes it possible to describe human intuitions about evil in principled terms. We feel that someone is evil when that person grossly violates our marginal expectations of their WTR in relation to ourselves, our friends, or some other real or symbolic entity held in high regard. The category is of course fuzzy; there is no set boundary between ‘disagreeable,’ ‘nasty,’ and ‘evil.’ With this in mind, folk psychological evil emerges as *an anti-social agentic designation that licenses extreme retributive action*. You may avoid or chastise the disagreeable person, but you may ostracize or even kill the evil person, who, by definition, is beyond the recalibrational reach of social sanction. The punishment regime thus tracks a functional gradient that is entirely consistent with its Darwinian origin (Boehm, 1999; Keltner, Haidt, & Shiota, 2006).

Notice that this skeleton of evil has a fractal character. Because the human intuitive psychology can conceptualize groups as if they were people with singular goals and inclinations, the WTR concept maps uniformly onto groups, subgroups, and individuals alike. It is similarly applicable to superstitions such as spirits, monsters, and other supernatural agents because they satisfy the input conditions of our neural agency detection hardware (Boyer, 2002; Norenzayan, 2010). Such phantasms may even subvert the scale entirely by trading their own welfare against their victims’ *suffering*, making them, and any human ‘monsters’ like them, truly antisocial and evil.

The WTR concept has explanatory elegance and breadth. Yet it is only the tip of a largely precognitive iceberg. Humans must collate a

kaleidoscopic series of domain-specific indices to compute a realistic WTR for any given associate (Petersen, Sell, Tooby, & Cosmides, 2010). This includes assessing, among other things, phenotypic matching for kinship cues, group affiliations, conferral indices, and formidability indices. For example, an individual with a high conferral potential should raise the lower bound of their base-rate WTR in absolute terms because the person’s surplus resources allow frivolous sharing at minor personal costs. But a high conferral potential should not, according to this logic, drive the WTR in relative terms. Conversely, a powerful individual should lower their base-rate WTR because such an individual will start from an asymmetrically strong bargaining position. There is ample evidence that something like this in fact happens (Petersen et al., 2010, 2012; Petersen, Sznycer, Sell, Cosmides, & Tooby, 2013; Sell, Tooby, & Cosmides, 2009). In the following section, I will show how the fundamental evolutionary logic of the WTR underpins our understanding of evil from social psychology.

The Social Psychology of Evil

In his influential book *Evil*, psychologist Roy Baumeister (2001) set out to answer one of the most vexing questions in all of social psychology: Why are people bad to each other? In answering this question, many philosophers and social thinkers have resorted to a lazy answer: People are bad because they are bad. Evil becomes its own motivation, as when in Milton’s *Paradise Lost* Satan defiantly exclaims, “Evil, be thou my good” (1667, p. 110). Baumeister rejects this view. He coined the phrase ‘the myth of pure evil’ to describe the idea that evil proper does not exist. We think that someone doing wrong by us is evil because we do not have access to their exculpatory motivations and backgrounds, making us prone to the fundamental attribution error,⁶ and because self-serving cognitive biases on both sides of an

⁶ ‘The fundamental attribution error’ refers to the finding that people, perhaps especially people from Western cultures, have a basic tendency to account for the behavior of others in terms of internal, dispositional attributions (Andrews, 2001). Consistent with the present thesis, the effect is asymmetrically robust for acts perceived to be immoral; a moral act is more likely to be attributed to situational factors (Reeder & Spores, 1983).

offending interaction create a ‘magnitude gap’ that distorts its perceived intensity. On this view, evil is in the eye of the beholder. Baumeister’s conclusion dovetails with the Darwinian outlook of this article: There is no such thing as evil ‘in itself’; there is only an evolved intuition that certain people and acts are more than just disagreeable, and a notion that we need a label for that. But the intuition is still real at a phenomenological level.

Baumeister’s argument is borne out by subsequent research (Pinker, 2011, pp. 587–599). When someone does something bad, the reason we say it is bad is because that person, as far as is understood, had no good reason for offending. As soon as we can point to some explanation for the behavior, the supposed *acte gratuit* is explained, and the evil of it is explained away. And, as neurobiologists recognize, there are always reasons for our behaviors once you understand their bases in the brain’s functional circuitry. It is just that some of these reasons may not appear to the offended party. This leaves the victim with an explanatory gap to fill, and the internal, ‘essential’ attribution of an evil impetus is the default answer.

Neuroscientist Simon Baron-Cohen (2012) has proposed a complementary explanation to Baumeister’s. Baron-Cohen stresses deficient affective empathy in the perpetrator as the underlying cause of evil. A key piece of evidence in this account is that psychopaths lack affective empathy. They are prone to monstrous behavior because they do not resonate to the otherwise hardwired moral intuitions I discussed in the previous section. Of course, nonpsychopaths can act in cruel ways too, but this requires situational and historical factors that enable moral disengagement (Bandura, 1999; Singer et al., 2006; Zimbardo, 2007). The callous behavior of psychopaths, Baron-Cohen shows, has its roots in a compromised inhibitory ‘empathy circuit’ with a central hub in the ventromedial prefrontal cortex (pp. 29–43). Psychopathic minds do not emotionally respond to others as if they were people, and this naturalizes objectification and inhumane behavior. The cognitive importance of this distinction has been rigorously tested by Joshua Greene, and his results are consistent with Baron-Cohen’s thesis: Neurologically normal subjects overwhelmingly reject utilitarian solutions in ‘trolley problems’ and similar moral dilemmas when such solu-

tions hinge on using people, and in the process inflicting serious harm on them, as a means to a utilitarian (happiness-promoting) end. Psychopaths and other empathetically deficient subjects do not because they largely fail to register directness of personal harm and means-ends distinctions as morally relevant abstractions (2014, pp. 217–224). Not incidentally, both Baron-Cohen’s and Baumeister’s accounts of evil comport with enduring philosophical conceptions. Kant’s categorical imperative forbids treating another human merely as a means to an end. Plato thought that evil was always done *sub specie boni*, or in the guise of good. Moral psychologists like Greene now suggest that the speculations of these philosophers essentially retrofitted abstract arguments to affective lynchpins of our species, although this is a contested thesis (Kurzban, DeScioli, & Fein, 2012).

The discussion so far has steered clear of group conflict. Yet the in-group/out-group distinction is pivotal to human moral psychology. Experiments have documented a basic human tendency to favor in-group members with respect to judgments on a wide array of personal qualities, as well as in administering distributive justice (Tajfel, Billig, Bundy, & Flament, 1971). We think positively about our group’s members, and we try to help them. Not so for out-groups. The reason for this asymmetry is not any ontological feature of group division. Rather, there is a negative bias for out-groups because out-group membership is a reliable proxy for exploitative motives. This makes adaptive sense: As discussed, moral emotions let us leverage the benefits of cooperation at the intragroup level through a reciprocal calibration of intra-Group WTR. But there are no such safeguards in place for our interactions with other groups. Here we revert to Darwinian interorganismic conflict, only at a higher level of organization. Experiments by Kathrine Kinzler and colleagues (2009) corroborate the point: The researchers thought that because dialects diverge so quickly between closed communities, they were the most reliable and hard-to-fake signal of group affiliation in our hunter-gatherer ancestors. This led to the subsequently confirmed prediction that subjects would exhibit an evolved preference for familiar dialects over and above other potential markers of affiliation, such as race. Add to the human tribal mindset Baumeister’s magnitude gap working

at the group level and it becomes evident that any in-group/out-group animosity can perpetuate itself in a pernicious feedback loop: You do not know much about members of the out-group ipso facto. You thus come to impute wicked motives to them in clashes over resources. This, in turn, will widen the perceptual schism, rendering the out-group impermeable and the motives of its members even more obscure. They become the evil ‘Other.’

Common to these mechanisms—Baumeister’s magnitude gap, Baron-Cohen’s emotional apathy, and Tajfel’s group dynamics—is that they evince or at least suggest an unacceptable WTR setpoint. In the case of the magnitude gap, the problem is that self-serving biases in both perpetrator and victim converge to make the offending act seem grossly unjust. In the case of emotional apathy, antisocial aggressors will downregulate subjects’ WTR toward others because of a missing affective input variable. Finally, groups are reliable fault lines of WTR clusters because humans evolved to only up-regulate WTRs toward kin (by way of kin selection) and in-group members (by way of reciprocal altruism).

The last topic I will treat in this section is disgust. Psychologists now appreciate the role of disgust in human moral sentiment. Primordially evolved as a ‘guardian of the mouth,’ disgust has both genetically and culturally been pressed into service of our moral intuitions to guard the idols and traditions that cultures invest with sacred value (Haidt, 2013, pp. 171–177). I treat this moral dimension last because it seems to flout the rule that a precognitive welfare tradeoff ratio governs human moral intuitions. Even so, there is some interaction: Norm-breakers may not directly inflict harm on anyone, but they still signal a low WTR toward the in-group by disrespecting its values (Petersen et al., 2010, pp. 90–91). Disgust’s principal mechanism of action, however, is probably that it leads to dehumanization. When an agent is disgusting, human affective adaptations for pathogen avoidance kick in and loosen the moral tug of that agent (Rozin, Haidt, & McCauley, 2008; Schnall, Haidt, Clore, & Jordan, 2008). We feel contempt toward those triggering the emotion despite an intellectual recognition that morality, at least in principle, concerns itself with acts and intensions, not appearances and smells. This appears to be a biological

adaptation: Avoiding conspecifics and nonhuman animals that exhibit biomarkers of contagion will confer an advantage provided those markers are reliably symptomatic of a contagious condition. Disgust may work in this way because part of its neuroanatomical locus, in particular the anterior insula, has been pressed into the service of our moral grammar. This is a contested thesis, however, and newer studies seem to indicate a differential entrainment of concrete and abstract disgust responses to a multitude of neural networks (Borg, Lieberman, & Kiehl, 2008). There is good evidence for a functional and phenomenological overlap, however (Haidt, 2013).

Summing up our current best understanding of moral psychology and its implications for the notion of evil gives the following picture. Humans, like other primates, evolved to live and thrive in groups that constitute cooperative units. Moral intuitions built on a foundation of kin selection and reciprocal altruism pushed us into a hypersocial ecological niche by allowing us to avert the so-called Tragedy of the Commons whereby all agents are motivated to always be selfish. This evolutionary logic is largely captured in the concept of welfare tradeoff ratios that govern our intuitions about how we ought to treat others, and how they ought to treat us. But because we have evolved intuitions to bring us together, we have also evolved adaptations to ensure that cooperation is not undermined by free-riding exploiters, antisocial individualists, and competing coalitions. Our universal conception of evil is one such adaptation. From this perspective, evil is an agentic designation reserved for a marked, sustained mismatch between the expected welfare tradeoffs of others toward us and our groups—be it real or imagined. It is modulated by the relationship that holds between parties, and it is sensitive to symbolic capital. Finally, evil seems to bear a systematic relation to disgust. We find disgusting people immoral, and we find immoral people disgusting.

Evil Villains in Pop Culture

In the previous sections I have delineated a view of evil as an antisocial motivational attribution that warrants prosocial countermeasures. The implication is that such attributions will share predictors grounded in their ultimate,

adaptive logic. I will now list five hypotheses about evil villains in fiction media according to this general schema, each of them illustrated with short vignettes on pop-cultural antagonists. In doing this, I build on the work of Joseph Carroll, Dennis Dutton, and Brian Boyd, who have shown that the evolved human folk psychology is given free rein in narrative fiction (Boyd, 2009; Carroll, 2010; Dutton, 2009). In the words of Mathias Clasen (2010b), another evolutionary scholar, “the really good stories, the ones that continue to be told, are the ones that have a peculiar resonance with human nature” (p. 325). Good stories need good villains, and there is no reason to think that this argument does not apply to the stories in films and video games as well.

Prediction 1 – Evil antagonists should display an extremely low WTR toward protagonists and their groups. This is a given when seen in the light of the previous discussion. Antagonists should be hyper-individualistic bullies. They should threaten the social order and induce righteous indignation in protagonists, incentivizing them and their peers to band together, fight back, and finally affirm their prosocial values. This basic agonistic structure scaffolds an impressive array of fictional plots (Carroll, Gottschall, Johnson, & Kruger, 2009).

A feature of the truly evil antagonist, according to this prediction, should be sadism. Villains will likely be driven to evil as a first principle. The demon Pazuzu from William Peter Blatty’s (1971) novel *The Exorcist* is a salient example. Pazuzu seeks to possess innocent people simply to make their lives, and the lives of those dear to them, miserable. The character Father Merrin, a seasoned Catholic exorcist, explains: “I think the demon’s target is not the possessed; it is us . . . the observers . . . every person in this house. And I think—I think the point is to make us despair; to reject our own humanity” (p. 345). Pazuzu illustrates our capacity to think of evil as an immanence that is directly causative of antisocial behavior. It threatens to infiltrate our communities at every moment, and it can only be defeated through prosocial resistance and self-sacrifice.

Another paradigmatic case is the demon Diablo from Blizzard Entertainment’s *Diablo* franchise. The series’ titular villain is one of seven Great Evils. Each Great Evil represents an aspect of evil, including Hatred, Destruction,

Lies, and, in the case of *Diablo, Terror*. As the most powerful of these Evils, Diablo terrorizes the world of Sanctuary in which players find themselves at the start of every game. In the series’ newest installment, *Diablo III*, the evil villain consumes the souls of the other Great Evils, and as a result becomes the Prime Evil. Players must rush to the defense of Sanctuary to banish the menace. This requires the aid of the Arch Angels of Heaven, each representative of an aspect of good, such as Hope, Justice, and Wisdom. Thus, the diegetic world of Sanctuary becomes a worldly battleground for the otherworldly forces of good and evil, and it is up to the player to rally the scattered denizens of Sanctuary in the desperate struggle. Diablo fully realizes his villainous status in this setup; he explicitly avows evil motives with phrases such as “We feed off your fear!” and “Evil never rests!”

Like Diablo, many popcultural villains flaunt their moral corruption. Other examples are Marvel’s Brotherhood of Evil Mutants and the Wicked Witch from *The Wizard of Oz* (1939) and *Once Upon a Time* (2011–). These villains illustrate the point that the essential attribution of an evil motive comes easy in fiction, even if it is itself a fiction. In *Evil*, Baumeister proposes the following explanation for this fact, one congenial to the explanatory framework of this article:

Villains survive in popular entertainment because people still like to see them—in some important way, they do correspond to how people see the world. Indeed, the very fact that villains endure in popular entertainment despite being discredited by high literature, theology, and psychology is a testimony to how strong the appetite for them is. . . . We can safely conclude that they speak to a deeply rooted preference for understanding evil in certain ways. (1997, p. 64)

Prediction 2 – What background information is offered about the evil villain over the course of the narrative should massively overpredict its WTRs toward protagonists and their in-groups. This carves out a motivational space for the *mens rea* of such an antagonist. The evil antagonist Ganondorf (alias Ganon) from the *Zelda* video game franchise fits this description (Gombos & Himekawa, 2013). The series recently celebrated its 25th anniversary and features a total of about 16 games, depending on the tally. Sometimes featured as the ‘Evil King of Thieves’ and ‘Demon

King,' Ganon is the main villain of the majority of these games. Yet despite his prolific appearances, Ganon's motives and much of his background are shrouded in mystery. He seeks to plunge the world of Hyrule into chaos and darkness for no apparent reason.

Clasen (2014) makes a related observation. In discussing the evil monster from Stephen King's *It*, he points out that

While the series makes it perfectly clear what Pennywise wants—to kill, maim, and eat children—we are never told why Pennywise wants what he wants. The series does not give us access to his point of view, which is characteristic of stories about pure evil. Whenever we see things from the perspective of the perpetrator, his or her evilness begins to crumble. In accordance with the myth of pure evil, Pennywise is portrayed as a monster who thoroughly enjoys his vocation and spouts vaguely ominous catchphrases such as “They all float down here,” which underscore his lack of intelligible motivation. He has no sympathetic character traits, no positive motives, no exculpatory rough childhood. Conversely, we are given abundant access to the protagonists' lives and hardships. (43)

An asymmetric perspectival omission is a powerful narratological technique because it allows the reader to supply the malicious intent of the monster in accordance with Baumeister's default attributive stance: We assume the worst, so we need no explicitly evil motive to understand that a character is rotten to the core. Storytellers understand that it is unfeasible to describe events from the point of view of antagonists without giving reasons for those actions. Such reasons will tend to displace the evil of that character precisely because evil is predicated on bad actions carried out for their own sake. The mechanism is the inversion of that exploited by authors who want their readership to appreciate the hardships of certain people or groups. One way to do this is to write an essay calling for social justice; a different and often more effective way is to tell the victim's story in the first person. This format compels readers to imaginatively inhabit the world of the victim as a protagonist, and in the process integrate and analyze the causal forces impinging on its behavior. Empathy gets an opening. It must not if the evil antagonist is to remain truly evil.

To illustrate the point, consider Frankenstein's monster in Mary Shelley's *Frankenstein; or, the Modern Prometheus* (1818). Frankenstein's monster has culturally morphed into

something different from Shelley's original character. In her epistolary novel, the intelligent and articulate monster is hated and hunted by its creator, who believes it to be an abomination. However, Shelley gives the monster a voice to show that his actions are those of a shunned creature made without purpose:

I am malicious because I am miserable. Am I not shunned and hated by all mankind? You, my creator, would tear me to pieces and triumph; remember that, and tell me why I should pity man more than he pities me? You would not call it murder if you could precipitate me into one of those ice-rifts and destroy my frame, the work of your own hands. Shall I respect man when he condemns me? Let him live with me in the interchange of kindness, and instead of injury I would bestow every benefit upon him with tears of gratitude at his acceptance. (15.11)

Frankenstein's monster commits many villainous acts, but he is not a villain. Yet it would have been easy to make him one. Shelley's shifting perspectives give the characters depth, but they also frustrate the reader's attempt to attach moral blame.

Prediction 3 – Antagonists should engage others as objects to be used as means to ends that represent the autotelic aspirations of psychopaths, such as dominance and hedonic gratification. They should trigger our moral emotional hardware in their selfish pursuits. Consider the antagonists of the much-maligned rape-revenge films, a genre in which a female protagonist seeks revenge after being raped. These antagonists commit heinous crimes for the sake of perverse pleasure. Their victims' violation is often shown in excruciating detail. The rape scene from *I Spit on Your Grave* (1978) can serve as an illustration. The scene is shown from the point of view of the victim as four men brutally rape her and finally leave her for dead. As a result, the viewer is all but forced to imaginatively experience the assault as it unfolds. This empathic hook, in turn, inspires retributive anger. The depravity depicted in rape-revenge films is often balanced by ultimate, retributive justice, which is typically exacted by implicated protagonists (Andrews, 2012, p. 2). Critics argue that such endings are central to the genre; the appeal of rape-revenge films is exactly to experience the antisocial predators getting their comeuppance (Andrews, 2012). In adaptive terms, the moralistic revenge acts on two levels: It neutralizes the actual of-

fender, and it acts as a deterrent to would-be offenders. Thus, there are reasons why we can be both repelled by and attracted to the bizarre genre.

A different example of the same principle is Anton Chigurh, the iconic villain of the 2007 thriller *No Country for Old Men*. In his pursuit of the movie's 'McGuffin,' a satchel full of money, Chigurh has only concern for his personal gain. He disposes of interfering elements, animate or not, with clinical efficiency. One of these elements, a hit man named Carson Wells, gives the same ominous description of Chigurh to the movie's protagonist shortly before being liquidated. Wells adds to it that Chigurh is a man of peculiar principles: He categorically declines "making deals" and refuses any concession to the common interest. Chigurh will cooperate with others precisely to the extent that he himself benefits; when he no longer does, they are promptly killed. A contiguous point can be made of one of the final scenes when, after having been rammed in his car by a truck, a heavily injured Chigurh is approached by two youngsters. One of the boys offers the helpless killer his shirt as a makeshift arm sling, but Chigurh will only take it on the condition that the boy accept a banknote as a quid pro quo. The scene reveals that Chigurh's antisocial behavior is a matter of personal principle. The boy's offer is an act of altruism in the most literal sense of the word: he willingly confers a benefit to another at a personal cost. Conversely, the killer's proviso of reciprocity may appear an act of goodness, but in the context of this antisocial villain it is an expression of cognitive dissonance. Chigurh understands that an asymmetric exchange with the boy would manifest the very social interdependence that he so vehemently opposes, and hence he rejects it.

Prediction 4 – Antagonists should display phenotypic markers that facilitate pseudospeciation. In particular, they will often have a foreign accent because a foreign accent is a salient low-WTR cue. A paradigmatic example of this would be Hans Gruber from the movie *Die Hard* (1988). Gruber's contrived German accent owes to the training of English actor Alan Rickman. Also noteworthy is Hollywood's profligate use of British English accents for its villains, such as Shere Khan in *The Jungle Book* (1967), Count Dooku in *Star Wars Episode III: Revenge of the Sith* (2005), Tywin Lannister in

Game of Thrones (2011–), and the Sheriff of Nottingham in *Robin Hood: Prince of Thieves* (1991). Historical and geopolitical conditions influence which villainous accents are in vogue, and it is of course no coincidence that Russian bad guys, such as Ivan Drago in *Rocky IV* (1985), have become another Hollywood cliché. Finally, consider the Arab villain Salim Abu Aziz in *True Lies* (1994). This generically named antagonist came on the scene after the 1993 World Trade Center bombing, and in the wake of the dissolution of the Soviet Union, a time when a new evil archetype was needed. Accent as a low WTR cue thus seems to be an open system; there is a general proclivity in place to discriminate on the basis of accent, but the specific input conditions change with the shared knowledge and attitudes of communities.

WTR theory may also be compatible with an 'evil kin' archetype that plays to a discordant relationship between a high kinship index and a low WTR. On this view, an antagonist is maximally evil if it combines cues of a high WTR setpoint (consanguinity plus superficial prosociality and normative behavioral alignment) with deception that ultimately betrays a low WTR setting. An example of this is Scar from Disney's *Hamlet*-inspired *The Lion King* (1994). Scar is part of Simba's, the protagonist's, family, yet ambition and callousness leads Scar to kill Simba's father and attempt to kill Simba. From this perspective it is no wonder that Scar has become one of Disney's most infamous villains.

Prediction 5 – Antagonists should often be described as disgusting, and/or they should provoke righteous disgust in protagonists. This prediction builds on the finding that disgust acts as a detractor of moral capital and a condition of dehumanization. As discussed in the previous section, it is easier to de-rationalize or assume missing the exculpatory motivations of a disgusting antagonist. Antagonists may disgust by looking infected or appear and act beastly. Similarly, antagonists should flout moralized norms, thereby eliciting disgust in protagonists. Leatherface from *The Texas Chainsaw Massacre* (1974) fits the bill. The face of the iconic psychopath, mostly concealed behind one of his three bizarre masks made of human skin, is clearly disfigured. His brutish roars and apish gait warn the viewer that something is very wrong with this iconic recluse. Leatherface's

foul exterior becomes the manifestation of a foul essence.

Note similarly Regan's demonic transformation in *The Exorcist*, culminating in her vile transformation: "involuntary motor excrement; foul breath; furred tongue; the wasting away of the bodily frame; the distended stomach; the irritations of the skin and mucous membrane" (p. 240). During the climactic exorcism, Regan vomits and excretes violently, all rendered in vivid detail: "The bellowing seized, and at first there ensued a ringing silence, and then a thick and putrid greenish vomit began to pump from Regan's mouth in slow and regular spurts that oozed over her lips and flowed in thin waves onto Merrin's hand" (p. 337). Describing Regan in terms of human abjection and biodegradation works for the same reason that it works in the depiction of the zombie, a genre staple: Regan becomes defiled, a repository of contaminants and an agent to be avoided if you value your own health (Clasen, 2010c). But, as argued, disgust is also a moral stigma. By exploiting this, the horror genre may induce a disgust response in order to further our general disdain toward the eliciting character. In the case of *The Exorcist*, our moral censure of the possessed Regan tracks our revulsion at her physical degeneration.

Some of these predictions will prove more robust than others, as well as more or less responsive to particular cultural ecologies. Just a cursory look at the famous villains of pop culture reveals substantial historical and cultural inflections. Still, the present account should frame a limited possibility space for the archetypical evil villain because it is grounded in human nature. This limited possibility space represents the parameters within which antagonists become fully fledged evil villains that we cannot help but to despise.

Conclusion

When Dostoyevsky laments the intractable nature of evil, the contemporary critic might observe that he is not so much describing a philosophical problem as a necessary condition of its existence. From a sociological perspective, evil is incompatible with understanding because understanding is its negation. From a Darwinian perspective, evil has its adaptive roots as a functional label that licenses Draco-

nian punishment. It revolves around a deep, evolutionary logic of the tradeoffs between altruism and selfishness. And because evil is this basic, it seeps through to all aspects of the human imagination.

The types of stories dealt with in this article may carry an adaptive function in evolutionary terms. As I have argued, the rigid agonistic structure of popcultural narratives allows communities to promote a prosocial ethos through the sharing of imaginative worlds with rich moral import. This is a plausible role. As group size and complexity during human evolution have increased, problems of cooperation among nonkin have followed (Clutton-Brock, 2009). Such problems may be negotiated through the partaking in shared imaginative worlds with prosocial inducements (Carney, Dunbar, Machin, Dávid-Barrett, & Júnior, 2014). The exact phenotypic gambit of any such adaptive function, however, remains highly speculative.

Despite its contested assumptions, the adaptationist view of narratives has received much attention in the last couple of decades, in particular by literary scholars (Boyd, Carroll, & Gottschall, 2010; Carroll, 2013b). It may prove fruitful to integrate the present thesis with the work already done in this emergent field.

In this article I have sketched a scientifically integrated Darwinian understanding of evil in pop culture, and I have offered predictions based on this understanding. Whether and to what extent these predictions will pan out is an open question. What is not an open question, however, is the soundness of a consilient approach. This article represents an early attempt at constructing an evolutionary poetics of evil that synthesizes experimental findings from the sciences of mind. I hope that it can act as a stepping stone for further inquiry.

References

- Andrews, D. (2012). The rape-revenge film: Biocultural implications. *Jump Cut*, 54, 1–4. Retrieved from <http://www.ejumpcut.org/archive/jc54.2012/DAndrewsRapeRevenge>
- Andrews, P. W. (2001). The psychology of social chess and the evolution of attribution mechanisms: Explaining the fundamental attribution error. *Evolution and Human Behavior*, 22, 11–29. [http://dx.doi.org/10.1016/S1090-5138\(00\)00059-3](http://dx.doi.org/10.1016/S1090-5138(00)00059-3)

- Axelrod, R., & Hamilton, W. D. (1981). The evolution of cooperation. *Science*, 211, 1390–1396. <http://dx.doi.org/10.1126/science.7466396>
- Bandura, A. (1999). Moral disengagement in the perpetration of inhumanities. *Personality and Social Psychology Review*, 3, 193–209. http://dx.doi.org/10.1207/s15327957pspr0303_3
- Baron-Cohen, S. (2012). *The science of evil: On empathy and the origins of cruelty*. New York, NY: Basic Books.
- Baumeister, R. F. (2001). *Evil: Inside human violence and cruelty*. New York, NY: Holt Paperbacks.
- Blatty, W. P. (2011). *The exorcist* (40th anniversary ed.). London, UK: Corgi Books.
- Bloom, P. (2013). *Just babies: The origins of good and evil*. London, UK: The Bodley Head.
- Boehm, C. (1999). *Hierarchy in the forest: The evolution of egalitarian behavior*. Cambridge, MA: Harvard University Press.
- Boehm, C. (2014). The moral consequences of social selection. *Behaviour*, 151, 167–183. <http://dx.doi.org/10.1163/1568539X-00003143>
- Borg, J. S., Lieberman, D., & Kiehl, K. A. (2008). Infection, incest, and iniquity: Investigating the neural correlates of disgust and morality. *Journal of Cognitive Neuroscience*, 20, 1529–1546. <http://dx.doi.org/10.1162/jocn.2008.20109>
- Bowler, P. J. (2009). *Evolution: The history of an idea* (25th anniversary ed.). London, UK: University of California Press.
- Boyd, B. (2009). *On the origin of stories: Evolution cognition, and fiction*. Cambridge, MA: Harvard University Press.
- Boyd, B., Carroll, J., & Gottschall, J. (2010). *Evolution, literature, and film: A reader*. New York, NY: Columbia University Press.
- Boyer, P. (2002). *Religion explained: The evolutionary origins of religious thought*. London, UK: Vintage.
- Brown, D. E. (1991). *Human universals*. New York, NY: McGraw-Hill.
- Buss, D. M. (2012). *Evolutionary psychology: The new science of the mind* (4th ed.). Boston, MA: Pearson.
- Carney, J., Dunbar, R., Machin, A., Dávid-Barrett, T., & Júnior, M. S. (2014). Social Psychology and the Comic-Book Superhero: A Darwinian Approach. *Philosophy and Literature*, 38, 195–215. <http://dx.doi.org/10.1353/phl.2014.0019>
- Carroll, J. (1995). *Evolution and literary theory*. Columbia, MO: University of Missouri Press.
- Carroll, J. (2010). Three scenarios for literary Darwinism. *New Literary History*, 41, 53–67. <http://dx.doi.org/10.1353/nlh.0.0144>
- Carroll, J. (2013a). The truth about fiction: Biological reality and imaginary lives (prefatory comment to French translation). *Épistémocritique*, 11. Retrieved from <http://www.epistemocritique.org>
- Carroll, J. (2013b). *Reading human nature: Literary Darwinism in theory and practice*. Albany, NY: SUNY Press.
- Carroll, J., Gottschall, J., Johnson, J. A., & Kruger, D. J. (2009). Human nature in nineteenth-century British novels: Doing the math. *Philosophy and Literature*, 33, 50–72. <http://dx.doi.org/10.1353/phl.0.0031>
- Clasen, M. (2010a). The horror! The horror! *The Evolutionary Review: Art, Science. Culture (Canadian Ethnology Society)*, 1, 112–119. Retrieved from <http://www.evolutionaryreview.com>
- Clasen, M. (2010b). Vampire apocalypse: A biocultural critique of Richard Matheson's *I Am Legend*. *Philosophy and Literature*, 34, 313–328. <http://dx.doi.org/10.1353/phl.2010.0005>
- Clasen, M. (2010c). The anatomy of the zombie: A bio-psychological look at the undead other. *Otherness: Essays and Studies*, 1, 1–23.
- Clasen, M. (2012). Monsters evolve: A biocultural approach to horror stories. *Review of General Psychology*, 16, 222–229. <http://dx.doi.org/10.1037/a0027918>
- Clasen, M. (2014). Amusing ourselves to death, almost: An evolutionary approach to horror media. In J. Barkow (Ed.), *Movies, news, gossip*. New York, NY: Oxford University Press.
- Clutton-Brock, T. (2009). Cooperation between non-kin in animal societies. *Nature*, 462, 51–57. <http://dx.doi.org/10.1038/nature08366>
- Cosmides, L., & Tooby, J. (2006). Evolutionary psychology, moral heuristics, and the law. In G. Gigerenzer & C. Engel (Eds.), *Heuristics and the law* (pp. 181–212). Cambridge, MA: MIT Press.
- Cushman, F., & Greene, J. D. (2012). Finding faults: How moral dilemmas illuminate cognitive structure. *Social Neuroscience*, 7, 269–279. <http://dx.doi.org/10.1080/17470919.2011.614000>
- Damasio, A. (2006). *Descartes' error*. London, UK: Vintage Books.
- Darwin, C. (1859/1998). *The origin of species* (1st ed.). Ware, UK: Wordsworth Editions.
- Darwin, C. (1871/2013). *The descent of man*. Ware: Wordsworth Editions.
- Dawkins, R. (2006a). *The selfish gene* (30th anniversary ed.). Oxford, UK: Oxford University Press.
- Dawkins, R. (2006b). *The blind watchmaker*. London, UK: Penguin Books.
- Dennett, D. C. (1996). *Darwin's dangerous idea: Evolution and the meanings of life*. London, UK: Penguin Books.
- De Waal, F. B. M. (2010). Morality and its relation to primate social instincts. In H. Høgh-Olesen (Ed.), *Human morality and sociality: Evolutionary and comparative perspectives* (pp. 31–57). New York, NY: Palgrave Macmillan.

- Dunbar, R. I. M. (2004). Gossip in an evolutionary perspective. *Review of General Psychology, 8*, 100–110. <http://dx.doi.org/10.1037/1089-2680.8.2.100>
- Duntley, J. D., & Buss, D. M. (2004). The evolution of evil. In A. Miller (Ed.), *The social psychology of good and evil* (pp. 102–123). New York, NY: Guilford Press.
- Dutton, D. (2009). *The art instinct*. Oxford, UK: Oxford University Press.
- Gombos, M., & Himekawa, A. (2013). *The legend of Zelda: Hyrule historia*. Milwaukie, OR: Dark Horse Books.
- Gottschall, J. (2008). *The rape of Troy: Evolution, violence, and the world of Homer*. Cambridge, UK: Cambridge University Press.
- Gottschall, J. (2013). *The storytelling animal: How stories make us human*. New York, NY: Mariner Books.
- Greene, J. (2014). *Moral tribes: Emotion, reason, and the gap between us and them*. London, UK: Atlantic Books.
- Grodal, T. (2009). *Embodied visions: Evolution, emotion, culture, and film*. New York, NY: Oxford University Press. <http://dx.doi.org/10.1093/acprof:oso/9780195371314.001.0001>
- Haidt, J. (2013). *The righteous mind: Why good people are divided by politics and religion*. New York, NY: Vintage Books.
- Keltner, D., Haidt, J., & Shiota, M. N. (2006). Social functionalism and the evolution of emotions. In M. Schaller, J. A. Simpson, & D. T. Kenrick (Eds.), *Evolution and social psychology* (pp. 115–134). New York, NY: Psychology Press.
- King, R. (2015). A regiment of monstrous women: Female horror archetypes and life history theory. *Evolutionary Behavioral Sciences, 9*, 170–185. <http://dx.doi.org/10.1037/ebs0000037>
- Kinzler, K. D., Shutts, K., Jesus, J. D., & Spelke, E. S. (2009). Accent trumps race in guiding children's social preferences. *Social Cognition, 27*, 623–634. <http://dx.doi.org/10.1521/soco.2009.27.4.623>
- Krebs, D. (1987). The challenge of altruism in biology and psychology. In C. Crawford, M. Smith, & D. Krebs (Eds.), *In Sociobiology and psychology: Ideas, issues, and applications* (pp. 81–118). Hillsdale, NJ: Erlbaum.
- Kurzban, R., DeScioli, P., & Fein, D. (2012). Hamilton vs. Kant: Pitting adaptations for altruism against adaptations for moral judgment. *Evolution and Human Behavior, 33*, 323–333. <http://dx.doi.org/10.1016/j.evolhumbehav.2011.11.002>
- Norenzayan, A. (2010). Why we believe: Religion as a human universal. In H. Høgh-Olesen (Ed.), *Human morality and sociality: Evolutionary and comparative perspectives* (pp. 58–71). New York, NY: Palgrave Macmillan.
- Nowak, M. A., & Sigmund, K. (1998). Evolution of indirect reciprocity by image scoring. *Nature, 393*, 573–577. <http://dx.doi.org/10.1038/31225>
- Öhman, A., & Mineka, S. (2001). Fears, phobias, and preparedness: Toward an evolved module of fear and fear learning. *Psychological Review, 108*, 483–522.
- Petersen, M. B., Sell, A., Tooby, J., & Cosmides, L. (2010). Evolutionary psychology and criminal justice: A recalibrational theory of punishment and reconciliation. In H. Høgh-Olesen (Ed.), *Human morality and sociality: Evolutionary and comparative perspectives* (pp. 72–131). New York, NY: Palgrave Macmillan.
- Petersen, M. B., Sell, A., Tooby, J., & Cosmides, L. (2012). To punish or repair? Evolutionary psychology and lay intuitions about modern criminal justice. *Evolution and Human Behavior, 33*, 682–695. <http://dx.doi.org/10.1016/j.evolhumbehav.2012.05.003>
- Petersen, M. B., Sznycer, D., Sell, A., Cosmides, L., & Tooby, J. (2013). The ancestral logic of politics: Upper-body strength regulates men's assertion of self-interest over economic redistribution. *Psychological Science, 24*, 1098–1103. <http://dx.doi.org/10.1177/0956797612466415>
- Pinker, S. (1999). *How the mind works*. London, UK: Penguin Books. <http://dx.doi.org/10.1037/e412892005-002>
- Pinker, S. (2003). *The blank slate: The modern denial of human nature*. London: Penguin Books.
- Pinker, S. (2011). *The better angels of our nature: A history of violence and humanity*. London, UK: Penguin Books.
- Pinker, S. (2012). The false allure of group selection. *Edge*. Retrieved from <http://www.edge.org>
- Price, M. E. (2012). Group selection theories are now more sophisticated, but are they more predictive? [Review of the book *A cooperative species: Human reciprocity and its evolution*, by S. Bowles & H. Gintis]. *Evolutionary Psychology, 10*, 45–49. <http://dx.doi.org/10.1177/147470491201000106>
- Rand, D. G., Dreber, A., Ellingsen, T., Fudenberg, D., & Nowak, M. A. (2009). Positive interactions promote public cooperation. *Science, 325*, 1272–1275. <http://dx.doi.org/10.1126/science.1177418>
- Reeder, G. D., & Spores, J. M. (1983). The attribution of morality. *Journal of Personality and Social Psychology, 44*, 736–745. <http://dx.doi.org/10.1037/0022-3514.44.4.736>
- Rozin, P., Haidt, J., & McCauley, C. R. (2008). Disgust. In M. Lewis, J. M. Haviland-Jones, & L. F. Barrett (Eds.), *Handbook of emotions* (3rd ed., pp. 757–776). New York, NY: Guilford Press.
- Schnall, S., Haidt, J., Clore, G. L., & Jordan, A. H. (2008). Disgust as embodied moral judgment. *Personality and Social Psychology Bulletin, 34*, 1096–1109. <http://dx.doi.org/10.1177/0146167208317771>

- Sell, A., Tooby, J., & Cosmides, L. (2009). Formidability and the logic of human anger. *PNAS Proceedings of the National Academy of Sciences of the United States of America*, *106*, 15073–15078. <http://dx.doi.org/10.1073/pnas.0904312106>
- Simon, R. L. (1995). *Bad men do what good men dream: A forensic psychiatrist illuminates the darker side of human behavior*. Arlington, VA: American Psychiatric Publishing.
- Singer, T., Seymour, B., O'Doherty, J. P., Stephan, K. E., Dolan, R. J., & Frith, C. D. (2006). Empathic neural responses are modulated by the perceived fairness of others. *Nature*, *439*, 466–469. <http://dx.doi.org/10.1038/nature04271>
- Sugiyama, M. S. (2001). New science, old myth: An evolutionary critique of the oedipal paradigm. *Mosaic*, *34*, 121–136. <http://literature.proquest.com>
- Tajfel, H., Billig, M. G., Bundy, R. P., & Flament, C. (1971). Social Categorization and Intergroup Behaviour. *European Journal of Social Psychology*, *1*, 149–178. <http://dx.doi.org/10.1002/ejsp.2420010202>
- Tooby, J., & Cosmides, L. (2001). Does beauty build adapted minds? Toward an evolutionary theory of aesthetics, fiction and the arts. *SubStance*, *30*, 6–27. <http://dx.doi.org/10.2307/3685502>
- Tooby, J., & Cosmides, L. (2008). The evolutionary psychology of the emotions and their relationship to internal regulatory variables. In M. Lewis, J. M. Haviland-Jones, & L. F. Barrett (Eds.) *Handbook of emotions* (pp. 114–137). New York, NY: Guilford Press.
- Tooby, J., & Cosmides, L. (2010). Groups in mind: The coalitional roots of war and morality. In H. Høgh-Olesen (Ed.), *Human morality and sociality: Evolutionary and comparative perspectives* (pp. 191–234). New York, NY: Palgrave Macmillan.
- Tooby, J., & DeVore, I. (1987). The reconstruction of hominid behavioral evolution through strategic modeling. In W. G. Kinsey (Ed.), *The evolution of human behavior: Primate models*. Albany, NY: SUNY Press.
- Vardy, P., & Arliss, J. (2003). *The thinker's guide to evil*. Hampshire, UK: John Hunt Publishing.
- Warneken, F., & Tomasello, M. (2013). The emergence of contingent reciprocity in young children. *Journal of Experimental Child Psychology*, *116*, 338–350. <http://dx.doi.org/10.1016/j.jecp.2013.06.002>
- Williams, G. C. (1966). *Adaptation and natural selection: A critique of some current evolutionary thought*. Princeton, NJ: Princeton University Press.
- Wilson, D. S., & Wilson, E. O. (2008). Evolution 'for the good of the group.' *American Scientist*, *96*, 380–389. <http://dx.doi.org/10.1511/2008.74.1>
- Wilson, E. O. (1998). *Consilience: The unity of knowledge*. New York, NY: Knopf.
- Zimbardo, P. (2007). *The Lucifer effect*. London, UK: Rider.

Received July 6, 2015

Revision received July 31, 2015

Accepted August 7, 2015 ■

E-Mail Notification of Your Latest Issue Online!

Would you like to know when the next issue of your favorite APA journal will be available online? This service is now available to you. Sign up at <http://notify.apa.org/> and you will be notified by e-mail when issues of interest to you become available!